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Description

Jurkat is a T cell leukemia cell line derived from a 14-year-old male patient with acute lymphoblastic leukemia. The cells are CD4+ and express the T cell receptor (TCR) and CD3. Jurkat cells are commonly used in immunology research, particularly in studies of T cell activation and signaling. The cell line is maintained in RPMI 1640 medium supplemented with 10% fetal bovine serum (FBS) and 100 U/ml penicillin, 100 U/ml streptomycin, and 100 U/ml nystatin. Jurkat cells are also used in the study of Lck kinase and its role in T cell activation. Jurkat E6.1 is a derivative of Jurkat cells that expresses a chimeric TCR/CD3 complex.

Organism

Human

Tissue

Leukocytes

Disease

Acute lymphoblastic leukemia

Metastatic site

None

Applications

Immunology, T cell activation, T cell signaling, T cell receptor signaling, CD3 signaling, Lck signaling, Jurkat E6.1, Jurkat E6.1.1, Jurkat E6.1.2, Jurkat E6.1.3, Jurkat E6.1.4, Jurkat E6.1.5, Jurkat E6.1.6, Jurkat E6.1.7, Jurkat E6.1.8, Jurkat E6.1.9, Jurkat E6.1.10, Jurkat E6.1.11, Jurkat E6.1.12, Jurkat E6.1.13, Jurkat E6.1.14, Jurkat E6.1.15, Jurkat E6.1.16, Jurkat E6.1.17, Jurkat E6.1.18, Jurkat E6.1.19, Jurkat E6.1.20, Jurkat E6.1.21, Jurkat E6.1.22, Jurkat E6.1.23, Jurkat E6.1.24, Jurkat E6.1.25, Jurkat E6.1.26, Jurkat E6.1.27, Jurkat E6.1.28, Jurkat E6.1.29, Jurkat E6.1.30, Jurkat E6.1.31, Jurkat E6.1.32, Jurkat E6.1.33, Jurkat E6.1.34, Jurkat E6.1.35, Jurkat E6.1.36, Jurkat E6.1.37, Jurkat E6.1.38, Jurkat E6.1.39, Jurkat E6.1.40, Jurkat E6.1.41, Jurkat E6.1.42, Jurkat E6.1.43, Jurkat E6.1.44, Jurkat E6.1.45, Jurkat E6.1.46, Jurkat E6.1.47, Jurkat E6.1.48, Jurkat E6.1.49, Jurkat E6.1.50, Jurkat E6.1.51, Jurkat E6.1.52, Jurkat E6.1.53, Jurkat E6.1.54, Jurkat E6.1.55, Jurkat E6.1.56, Jurkat E6.1.57, Jurkat E6.1.58, Jurkat E6.1.59, Jurkat E6.1.60, Jurkat E6.1.61, Jurkat E6.1.62, Jurkat E6.1.63, Jurkat E6.1.64, Jurkat E6.1.65, Jurkat E6.1.66, Jurkat E6.1.67, Jurkat E6.1.68, Jurkat E6.1.69, Jurkat E6.1.70, Jurkat E6.1.71, Jurkat E6.1.72, Jurkat E6.1.73, Jurkat E6.1.74, Jurkat E6.1.75, Jurkat E6.1.76, Jurkat E6.1.77, Jurkat E6.1.78, Jurkat E6.1.79, Jurkat E6.1.80, Jurkat E6.1.81, Jurkat E6.1.82, Jurkat E6.1.83, Jurkat E6.1.84, Jurkat E6.1.85, Jurkat E6.1.86, Jurkat E6.1.87, Jurkat E6.1.88, Jurkat E6.1.89, Jurkat E6.1.90, Jurkat E6.1.91, Jurkat E6.1.92, Jurkat E6.1.93, Jurkat E6.1.94, Jurkat E6.1.95, Jurkat E6.1.96, Jurkat E6.1.97, Jurkat E6.1.98, Jurkat E6.1.99, Jurkat E6.1.100

Synonyms

JURKAT, JM, JM-Jurkat, Jurkat-FHCRC, Jurkat FHCRC, FHCRC-11, FHCRC, FCCH11, FCCH1024

Age

14 years

Gender

Male

Ethnicity

White

Morphology

Leukocytes

Growth properties

Adherent

Citation

(ATCC) (CCL-21) (302147)

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Biosafety level 1

NCBI_TaxID 9606

CellosaurusAccession CVCL_0065

Antigen expression

Highly expressed Jurkat cell surface markers (TCR) CD3, CD4, CD8

Mutational profile

Highly expressed Jurkat cell surface markers (TCR) CD3, CD4, CD8 [1]. Jurkat cell surface markers (TCR) CD3, CD4, CD8 Lck BMC Genomics, 19, 1-13.

Karyotype

Highly expressed Jurkat cell surface markers (TCR) CD3, CD4, CD8 46,XX,XY,der(1)t(1;22)(p11;p11) [7.8%]

Culture Medium

RPMI 1640 + 2.0 mM L-glutamine + 2.0 mM NaHCO₃ (Gibco 820700a)

Supplements

10% FBS

Doubling time

26 hours

Subculturing

1:5

Fluid renewal

2-3 times per week

Freeze medium

10% FBS + 10% DMSO

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Thawing and Culturing Cells

1. [Redacted]
2. [Redacted]
3. [Redacted]
4. [Redacted]
5. [Redacted]
6. [Redacted]
7. [Redacted]
8. [Redacted]

Incubation Atmosphere

37 [Redacted]

Flask Coating

[Redacted]

Freezing Procedure

[Redacted]-78

Shipping Conditions

[Redacted]-78

Storage Conditions

[Redacted]-150 -196 [Redacted]

/ / HLA

Sterility

[Redacted] (PCR) [Redacted]
[Redacted]